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The Bats of the Andaman and
Nicobar Islands

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This paper summarises the species of bats so far known from the Andaman and Nicobar Islands and provides notes on a small collection of bats obtained by Mr. Humayun Abdulali during visits to various islands in the two groups. His efforts have added *Megaderma spasma* to the list of bats recorded from the Andamans and *Taphozous saccolaimus crassus* to those known from the Nicobars. Further specimens of *Hipposideros diadema nicobarensis* and *Pipistrellus javanicus camortae* have been obtained, enabling an assessment of the taxonomic status of these hitherto poorly known forms to be made.

The bat fauna of the Andaman and Nicobar Islands is known from a wide diversity of descriptions and records. Consequently, the examination of a collection of bats obtained in these islands by Mr. Humayun Abdulali in the course of two ornithological trips has prompted a brief review to establish a basis for any future studies. Consisting of thirty-six specimens representing ten species, the collection adds *Megaderma spasma* to the bats so far recorded from the Andamans and *Taphozous saccolaimus crassus* to those so far known from the Nicobars. I am indebted to Mr. Abdulali and to the Bombay Natural History Society for the opportunity of studying this interesting collection, of which some specimens have been donated to the British Museum (Natural History), the balance being retained by the Society. Specimens are denoted by the field collection numbers which form two separate series, one referring to specimens from the Andaman Islands, the other to those collected on the Nicobar Islands.

MEGACHIROPTERA

***Pteropus* (?) *hypomelanus satyrus* Andersen**

Pteropus satyrus Andersen, 1908, *Ann. Mag. nat. Hist.* (8), 2:362. Narcondam Island, Andaman Islands.

Andersen (1908:363) at first thought that *satyrus* probably replaced the widespread *P. hypomelanus* in the Andaman Islands but subsequently (1912:142) considered it to be the Andamanese representative of *P. hypomelanus*, probably most nearly related to *P. h. geminorum* from the Mergui Archipelago. Ellerman and Morrison-Scott (1951:95) tentatively listed it as a subspecies of *P. hypomelanus*.

***Pteropus faunulus* Miller**

Pteropus faunulus Miller, 1902, *Proc. U. S. natn. Mus.* 24:785. Car Nicobar Island, Nicobar Islands.

1 sex unknown. Car Nicobar.

This specimen was sent by the Bombay Natural History Society to the British Museum (Natural History) in 1964 so that its identity could be verified. It was then returned and it has not been available for examination during the preparation of these notes. In colour it agrees very closely with the description by Miller and with one of the three examples referred to *faunulus* in the collection of the British Museum (Natural History). It differs from the remaining two [one, B.M. 6.4.13.1 that described by Andersen (1912:143)] in having a paler dorsal surface with the mantle, head, and ventral surface brighter and less tawny. Andersen (1912:143) considered *faunulus* allied to *P. hypomelanus* and it has a close similarity to *P. h. enganus* from Engano Island. Their dissimilarities do not seem very great and it is probable that *faunulus* may prove to be no more than a subspecies of *P. hypomelanus*.

***Pteropus melanotus melanotus* Blyth**

Pteropus edulis Blyth, 1846, *J. Asiat. Soc. Beng.* 15:367 (not of E. Geoffroy, 1810).

Pteropus nicobaricus Fitzinger, 1861, *Sber. Akad. Wiss. Wien.* 42:389 (nom. nud.). Nicobar Islands.

Pteropus melanotus Blyth, 1863, *Cat. Mamm. Mus. Asiat. Soc.* 20. Nicobar Islands.

Pteropus nicobaricus Zelebor, 1869, *Reise "Novara"*, Säugeth. 11. Car Nicobar Island, Nicobar Islands.

Pteropus melanotus is recorded from the Andaman Islands (as *P. nicobaricus*) by early authors until and including Trouessart (1904). However, Mason (1908:162) separated specimens from the Andamans as *P. tytleri* and this view is elaborated by Andersen (1912:224), who gave further diagnostic characters.

Pteropus (?) melanotus tytleri Mason

Pteropus tytleri Dobson, 1874, Cat. Chiroptera Indian Mus., 3 (nom. nud.). South Andaman Island.

Pteropus tytleri Dobson, 1876, Monogr. Asiat. Chiroptera, 189 (nom. nud.). South Andaman Island.

Pteropus tytleri Mason, 1908, *Rec. Indian Mus.* 2:162. Rutland Island, South Andaman Islands.

Ellerman and Morrison-Scott (1951:96) pointed out that *tytleri* does not seem a valid species and that Chasen (1940:28) had reduced the other members of the *melanotus* group of Andersen (1912:223) to subspecies of *melanotus* although treated as distinct species by this author. Certainly, *tytleri* is separated from *P. m. melanotus* by no greater extent than are *P. m. modigliani* from Engano Island or *P. m. natalis* from Christmas Island.

Pteropus vampyrus (Linnaeus)

Vespertilio vampyrus Linnaeus, 1758, Syst. Nat. 10th. ed. 1: 31. Java.

The evidence for the existence on the Andaman and Nicobar Islands of a large fruit bat referable or allied to *P. vampyrus* is reviewed by Miller (1902:786) and Andersen (1912:343). Fitzinger (1861:390) listed a specimen from the Nicobar Islands [as *Pachysoma giganteum* (not of Brünnich, 1782)] which was later described from Car Nicobar by Zelebor (1869:10) (as *Pteropus edulis* var. b. *Pachysoma giganteum*). A further record is provided by Dobson (1878:50) who described (as *Pteropus edulis*) a specimen from the Andaman Islands. Mason (1908:165) stated that *P. vampyrus* (as *P. celaeno*) occurs throughout the Nicobar Islands as a seasonal migrant.

Pteropus giganteus (Brünnich)

Vespertilio gigantea Brünnich, 1782, Dyrenes Historie, 1:45. Bengal, India.

Mason (1908:165) recorded *P. giganteus* (as *P. medius*) as an occasional and rare straggler to the Andaman Islands, noting that it had then been encountered on but two occasions, on North Andaman Island.

Cynopterus brachyotis scherzeri (Zelebor)

Pachysoma scherzeri Fitzinger, 1861, *Sber. Akad. Wiss. Wien.* 42:390 (nom. nud.). Nicobar Islands.

Cynopterus marginatus var. (*Pachysoma scherzeri*) Zelebor, 1869, Reise "Novara," Säugeth. 13. Car Nicobar Island, Nicobar Islands.

2 ♀♀ Nos. 15 (juvenile), 16 (young adult). Trinkut Island, Nicobar Islands. 11th March, 1966. Hanging under the midrib of a coconut frond together with a third differently coloured bat which escaped.

The dorsal surface of the head and the anterior part of the back in the young adult specimen (No. 16) is less brown and more greyish than

in specimens from Car Nicobar Island and the posterior part of the back is very slightly paler. The juvenile specimen (No. 15) is dark grey in colour, the underside very slightly paler than the back.

***Cynopterus brachyotis brachysoma* Dobson**

Cynopterus brachysoma Dobson, 1871, *Proc. Asiat. Soc. Beng.* 105; *J. Asiat. Soc. Beng.* 40:260. Andaman Islands.

Cynopterus marginatus var. *andamanensis* Dobson, 1873, *Proc. Asiat. Soc. Beng.* 148 (nom. nud.); *J. Asiat. Soc. Beng.* 42: 201, pl. 14, fig. 5. Andaman Islands.

2 ♂♂ Nos. 88, 89. Mandapahar, Chiria Tapoo, South Andaman Island. 15th February, 1964. Small cave on seashore. Weight 51 gms. each.

The posterior part of the back in these specimens is very slightly paler than in *C. b. scherzeri* and in one (No. 88) the anterior part of the back is less brown and more olivaceous. The other specimen has the throat and the sides of the neck suffused with rufous.

In life, the skin covering the larger bones of the wing was conspicuously pale.

MICROCHIROPTERA

***Taphozous melanopogon melanopogon* Temminck**

Taphozous melanopogon Temminck, 1841, *Mon. Mamm.* 2: 287. Bantam, Western Java.

3 ♂♂ Nos. 85-87. Mandapahar, Chiria Tapoo, South Andaman Island. 15th February, 1964. Out of a party of 10-15 in small cave on seashore. The cave held nests of *Collocalia fuciphaga*. Weights 21, 22, 22 gms.

Khajuria (1953:117) recorded four female examples of *T. melanopogon* from the Andaman Islands.

***Taphozous saccolaimus crassus* Blyth**

Taphozous crassus Blyth, 1844, *J. Asiat. Soc. Beng.* 13: 491. Mirzapore, Allahabad, India.

1 ♀ No. 9. Campbell Bay, Great Nicobar Island. 4th March, 1966. Clearing on edge of high forest along seashore.

Taphozous saccolaimus has not been recorded hitherto either from the Nicobar Islands or from the Andaman Islands. This specimen has pale brown underparts, lightening to white on the flanks immediately beneath the insertion of the wing membrane, which has a narrow band of short white hairs on its ventral surface behind the forearm. The specimen is darker ventrally than pale-bellied examples formerly referred to *affinis* (= *saccolaimus*) but has much paler underparts than dark-bellied specimens characteristic of *saccolaimus* as formerly understood.

***Megaderma spasma* (Linnaeus)**

Vespertilio spasma Linnaeus, 1758, *Syst. Nat. ed. 10, 1: 32*. Ternate, Molucca Islands.

1 ♀ No. 84. Wrightmyo, South Andaman Island, 15th February, 1964. Flew into room in the Forest Bungalow.

There is no previous record of *M. spasma* from either the Andaman Islands or the Nicobar Islands and it is difficult to allocate this specimen to any one of the described subspecies. In colour it closely resembles *M. s. majus* (Burma), *M. s. minus* (Thailand, Indochina), and *M. s. trifolium* (Sumatra, Java, Borneo). In length of forearm (56.9 mm.) it agrees with *M. s. horsfieldi* (India), *M. s. ceylonense* (Ceylon), *M. s. medium* (Tenasserim, Malay Peninsula), and *M. s. trifolium* but it has a very large skull (greatest length 27.0 mm., c—m³ 10.4 mm., length of mandible 17.9 mm.), in this respect agreeing more closely with *M. s. majus*. These circumstances suggest that subspecific designation should be deferred until more adequate series of specimens from the Andaman Islands and from near-by territories are available.

Rhinolophus andamanensis Dobson

Rhinolophus andamanensis Dobson, 1872, *J. Asiat. Soc. Beng.* 41, 2: 337. South Andaman Island.

Ellerman and Morrison-Scott (1951:114) pointed out that *R. andamanensis* is very like *R. affinis* and may represent that species in the Andaman Islands.

Rhinolophus cognatus cognatus Andersen

Rhinolophus cognatus Andersen, 1906, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (3), 2: 181. Port Blair, South Andaman Island.

Rhinolophus ? cognatus famulus Andersen

Rhinolophus famulus Andersen, 1918, *Ann. Mag. nat. Hist.* (9), 2: 377. North Central Island, Andaman Islands.

There seems little doubt that *famulus* is but subspecifically related to *cognatus*, differing chiefly in smaller size (Andersen, 1918:377).

Hipposideros diadema nicobarensis (Dobson)

Phyllorhina nicobarensis Dobson, 1871, *J. Asiat. Soc. Beng.* 40, 2: 262. Nicobar Islands.

6 sex undetermined Nos. 18-23. Trinkut, Middle Nicobar Islands. 20th March, 1966. Cave on seashore. Collected by B. R. Grubh and P. B. Shekar.¹

Hitherto, *H. d. nicobarensis* appears to have been represented in collections solely by the type specimen, a female in alcohol, collected by Dr. Stoliczka and preserved in the Indian Museum, Calcutta. So far as can be determined from the dry specimens, they conform closely to the original description. This is the smallest of the described subspecies of *H. diadema*, the length of the forearm in fact equal only to that of *H. larvatus*, from which *H. d. nicobarensis* is readily distinguished by its much larger skull. Minimum, maximum and mean (in parentheses) measurements in millimetres of six specimens (except where stated):

¹ Society's staff members who accompanied Mr. Abdulali—EDS.

length of forearm 58.8-64.2 (62.2); condylocanine length (five specimens) 22.6-22.9 (22.7); width of rostrum 7.8-8.1 (8.0); interorbital width 3.3-3.4 (3.3); zygomatic width 14.5-15.0 (14.7); mastoid width (five specimens) 12.4-13.0 (12.7) and $c-m^3$ 9.7-10.0 (9.9). Despite the comparatively small size of *nicobarensis*, there is no reason to doubt its allocation to *H. diadema* as a subspecies. There is no anti-tragal projection and the anterior noseleaf lacks any definite median emargination. The posterior noseleaf is high and is supported by a median septum, the upper part of the leaf wide and folded anteriorly over the intermediate part of the leaf. The dorsal pelage is soft and dense, the hairs tricolored, dark brown at the base, centrally grey and tipped with brown. For the most part, the ventral pelage is similar in colour but the hairs are paler at the base and are less evidently tipped with brown, especially towards the flanks. On the extreme anterior part of the chest and on the throat the hairs are grey white throughout their length. Laterally, along the flanks beneath the junction of the wing membrane and the body the hairs are dark brown at the base but otherwise are grey white, without any brown tipping, the white element in some specimens extending in front of the junction of the antibrachial membrane with the body to form a small white tuft. There is often a further white patch on the flanks above the junction of the anterior part of the wing membrane and body, at the base of the forearm. Cranially, the sphenoidal bridge is wide and the pterygoids expanded as in *H. diadema*. In its comparatively very small size this subspecies forms an exception to the general rule (Hill, 1963:108) that the larger subspecies of *H. diadema* are to be found in the western parts of its range and the smaller subspecies in the easterly areas of its distribution.

***Hipposideros ater nicobarulae* Miller**

Hipposideros nicobarulae Miller, 1902, *Proc. U. S. natn. Mus.* 24: 781. Little Nicobar Island.

3 ♂♂ Nos. 7, 8, 12; 4 ♀♀ Nos. 5, 6, 10, 11. Campbell Bay, Great Nicobar Island. 4th March, 1966. Cave on seashore.

1 ♂ No. 25. Camorta Island, Middle Nicobar Islands. 29th March, 1966. In old Japanese anti-aircraft box.

1 ♂ No. 31; 2 ♀♀ Nos. 32, 33. Car Nicobar Island. 7th April, 1966. Cave near seashore.

One specimen (No. 5) is in the rufous phase, in contrast to the remainder in the greyish brown phase.

(?) *Hipposideros fulvus fulvus* Gray

Hipposideros fulvus Gray, 1838, *Mag. Zool. Bot.* 492. Dharwar, India.

Hipposideros murinus Gray, 1838, *Mag. Zool. Bot.* 492. Dharwar, India.

Blyth (1846:368) recorded *H. f. fulvus* (as *H. murinus*) from the Nicobar Islands. Externally, it is very like *H. ater* although rather larger and it is possible that this record refers to *H. a. nicobarulae*.

Myotis (?) adversus dryas Andersen

Myotis dryas Andersen, 1907, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (3), 3: 33. Port Blair, South Andaman Island.

Ellerman and Morrison-Scott (1951:149) tentatively listed *dryas* as a subspecies of *M. adversus*.

Pipistrellus javanicus camortae Miller

Pipistrellus camortae Miller, 1902, *Proc. U.S. natn. Mus.* 24: 779. Camorta Island, Nicobar Islands.

4 ♀ Nos. 1-4. Great Nicobar Island. 3rd March, 1966. Clearing on edge of high forest along seashore.

1 sex undetermined No. 17 (subadult). Camorta Island, Middle Nicobar Islands. 13th March, 1966. In clearing in forest.

These specimens are referred to *camortae* without direct comparison but agree closely with the original description. Their close resemblance to *P. javanicus* indicates that *camortae* should be considered no more than subspecifically related to this species. They are rather smaller than *P. j. javanicus* from Java with the minimum, maximum and mean (in parentheses) length of the forearm in four specimens 31.3-32.7 (31.8) mm. and $c-m^3$ 4.7, 4.7 and 4.6 mm. In length of forearm they resemble *P. j. paterculus* from Burma but have larger and more massive teeth. The specimen from Camorta Island has dark brown dorsal pelage with the ventral pelage of similar but slightly paler colour. Those from Great Nicobar Island have dorsal pelage that is darker and more blackish brown: the ventral pelage, although paler, is a darker brown than in the example from Camorta. This specimen is very slightly darker both dorsally and ventrally than *P. j. javanicus* and approaches the palest of *P. j. paterculus* in colour but the specimens from Great Nicobar agree exactly with the darker specimens of this subspecies. Earlier records of *P. abramus* (Dobson, 1876:212; J. Anderson, 1881:129) and of *P. tenuis* (Zelebor, 1869:16) may be based upon specimens of *P. j. camortae*. *Vesperugo nicobaricus* Fitzinger (1861:390, nom. nud.) refers to the record subsequently regarded as *P. tenuis* by Zelebor.

Hesperoptenus tickelli (Blyth)

Nycticejus tickelli Blyth, 1851, *J. Asiat. Soc. Beng.* 20: 157. Chaibassa, Orissa, India (Wroughton, 1918: 22).

1 ♂ No. 22. Wrightmyo, South Andaman Island. 11th February, 1964. On the border of mangrove and forest.

1 ♂ No. 214. Long Island, Middle Andaman Islands. 27th February, 1964. Over seashore and maidan, near town.

1 ♀ No. 230. Long Island, Middle Andaman Islands. 28th February, 1964.

These specimens agree closely with specimens from Ceylon in size and colour: like these they are a little darker and more richly coloured dorsally than are the majority of Indian specimens. Dobson (1876:208) and J. Anderson (1881:132) recorded *H. tickelli* from the Andaman Islands.

Tylonycteris pachypus fulvida (Blyth)

Scotophilus fulvidus Blyth, 1859, *J. Asiat. Soc. Beng.* 28: 293. Schwegyin, River Sittang, south-eastern Burma.

1 ♂ No. 128. Wimberleyganj, South Andaman Island. 17th February, 1964. Over dry ricefield. Weight 3.5 gms.

This specimen has a damaged skull but agrees in colour with *T. p. fulvida*, to which it is referred provisionally. Dobson (1876:116, 210) and J. Anderson (1881:126) recorded a series of Andamanese specimens of *T. pachypus*.

Scotophilus temminckii (Horsfield)

Vespertilio temminckii Horsfield, 1824, *Zool. Res. Java*, pt. 8, pl. 9. Western Java (Sody, 1936: 48).

Recorded from the Nicobar Islands by Blyth (1863:354). There appear to be no subsequent records.

Miniopterus australis pusillus Dobson

Miniopterus pusillus Dobson, 1876, *Monogr. Asiat. Chiroptera*, 162. Nicobar Islands (Wroughton, 1918: 22).

The collection of the British Museum (Natural History) contains specimens from Katchal Island, Nicobar Islands, whence it was recorded by J. Anderson (1881:146). Presumably the subsequent reports by A.R.S. Anderson (1903:164) (as *M. schreibersi*) and Seymour Sewell (1922:979) refer to this bat.

BATS RECORDED FROM THE ANDAMAN ISLANDS:

Pteropus melanotus melanotus

Pteropus (?) *hypomelanus satyrus*

Pteropus vampyrus

Pteropus giganteus

*Cynopterus brachyotis brachysoma**

*Taphozous melanopogon melanopogon**

Megaderma spasma.*

Rhinolophus andamanensis

Rhinolophus cognatus cognatus

Rhinolophus (?) *cognatus famulus*

Myotis (?) *adversus dryas*

*Hesperoptenus tickelli**

*Tylonycteris pachypus fulvida**

* Obtained by Mr. Abdulali

BATS RECORDED FROM THE NICOBAR ISLANDS :

Pteropus (?) *melanotus tytleri*
*Pteropus faunulus**
Pteropus vampyrus
*Cynopterus brachyotis scherzeri**
*Taphozous saccolaimus crassus**
*Hipposideros diadema nicobarensis**
Hipposideros ater nicobarulae
 (?) *Hipposideros fulvus fulvus*
*Pipistrellus javanicus camortae**
Scotophilus temminckii
Miniopterus australis pusillus

* Obtained by Mr. Abdulali.

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